



Industrial Partnerships in Environmental Technology: The DoD Perspective

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DoD's Corporate Environmental Technology Programs



- **Basic and Applied Research**
- **Demonstration / Validation**

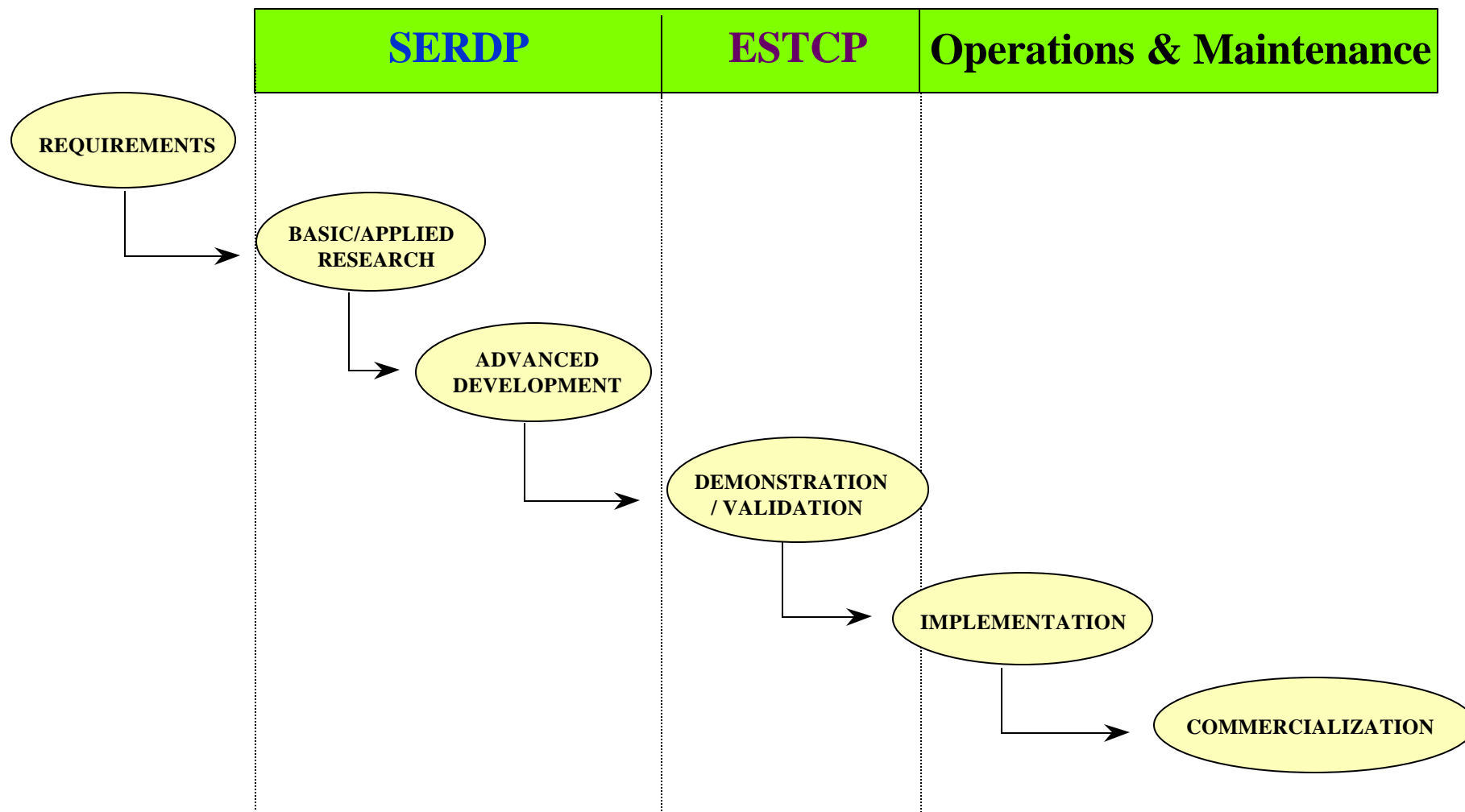
- **Established by FY 1991 Defense Authorization Act**
 - **DoD, DOE and U.S. EPA partnership**
- **Purposes**
 - **Address DoD and DOE environmental concerns through R&D**
 - **Share data collection and analysis capabilities**
 - **Identify and share DoD research technology**
 - **Identify private sector technologies useful to DoD**

PROGRAM GOALS

- **Demonstrate innovative cost-effective environmental technologies**
 - Capitalize on past investments
 - Transition technology out of the lab
- **Promote implementation**
 - Direct technology insertion
 - Gain regulatory acceptance

Priority: needs of the DoD user community

Environmental Technology Development Process



DoD Environmental Taxonomy

POLLUTION PREVENTION



CLEANUP / UXO



COMPLIANCE



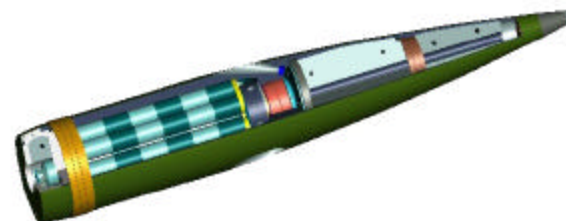
CONSERVATION



Pollution Prevention

- **Green Manufacturing and Maintenance**
 - Weapon systems
 - Ordnance
- **Air Pollution Reduction**
 - NOX, VOC, PM
 - Propulsion
 - Paint & de-paint
- **Hazardous Materials Elimination**
 - Cr, Cd, Pb etc.
 - Coatings, Adhesives, Composites
 - Plating

**Partner with acquisition
and sustainment community**



Unexploded Ordnance - UXO

Millions of Acres Contaminated



Current “Mag and Flag” Technology



Cost Driver:

For every 10 objects dug up - less than 1 is ordnance.

R&D Objectives:

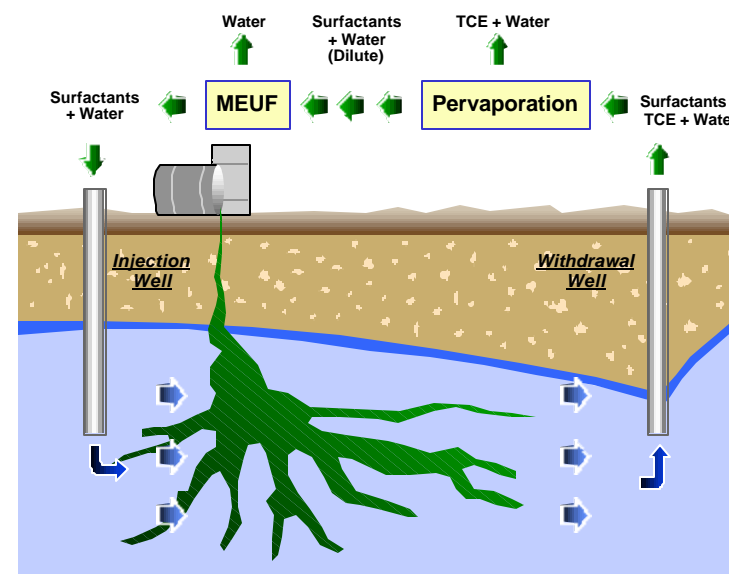
- Reduce the False Alarm Rate Through Improved Discrimination
- Develop Cost-Effective Site Screening Technologies
- Develop Efficient Clearance Technologies



Cleanup

- **In-situ remediation**
 - Groundwater & soils
 - Source term (DNAPL)
 - Solvents, metals, energetics
- **Site characterization & long term monitoring**
- **Eco-toxicity and bioavailability**
- **Technology transfer**
 - Regulatory acceptance
 - Protocol development
 - Training

Partner with regulators, industry and academia



Compliance

- **Emission control**

- Plating and painting operations
- Ordnance manufacturing
- Vehicles and facilities
- Test and training activities

- **Monitoring emissions**

- Air
- Water
- Noise

- **Clean disposal technologies**

- Hazardous waste

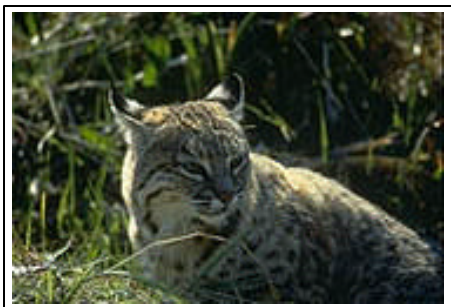


**Partner with regulators and facilities
and support direct technology
insertion**

Ecosystem Management Initiative



- **DoD Manages 25 million acres of land**
- **Over 200 Threatened and Endangered Species**
- **62 of 125 Army Posts have restrictions**
- **Long-term, interdisciplinary approach**

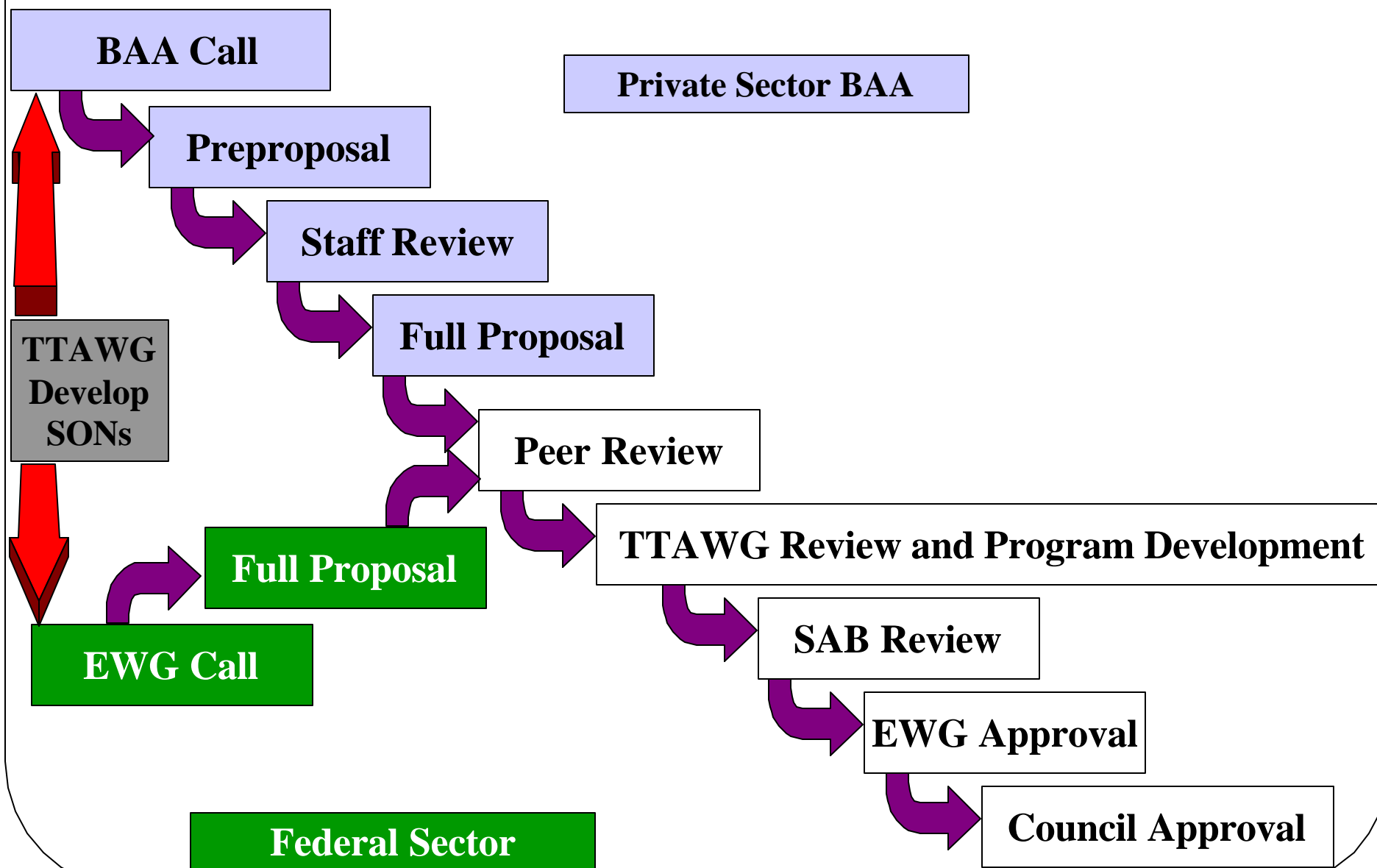


SERDP Method

- **Annual Solicitations to Meet DoD Needs**
 - **Two Solicitations**
 - **Open to All: Government, Academia, Industry**
- **Competitive Award**
 - **External Peer Review**
 - **Internal and Scientific Advisory Committee Review**
- **Transition to Demonstration/Validation**

- **R&D up through Proof of Principle**
 - **Basic Research**
 - **Applied Research**
 - **Technology Development**
- **“Nominal” Project**
 - **3 to 5 years in length**
 - **Costs range from \$85 K to \$500 K per year**
 - **Multiple Partners**

Solicitation Process

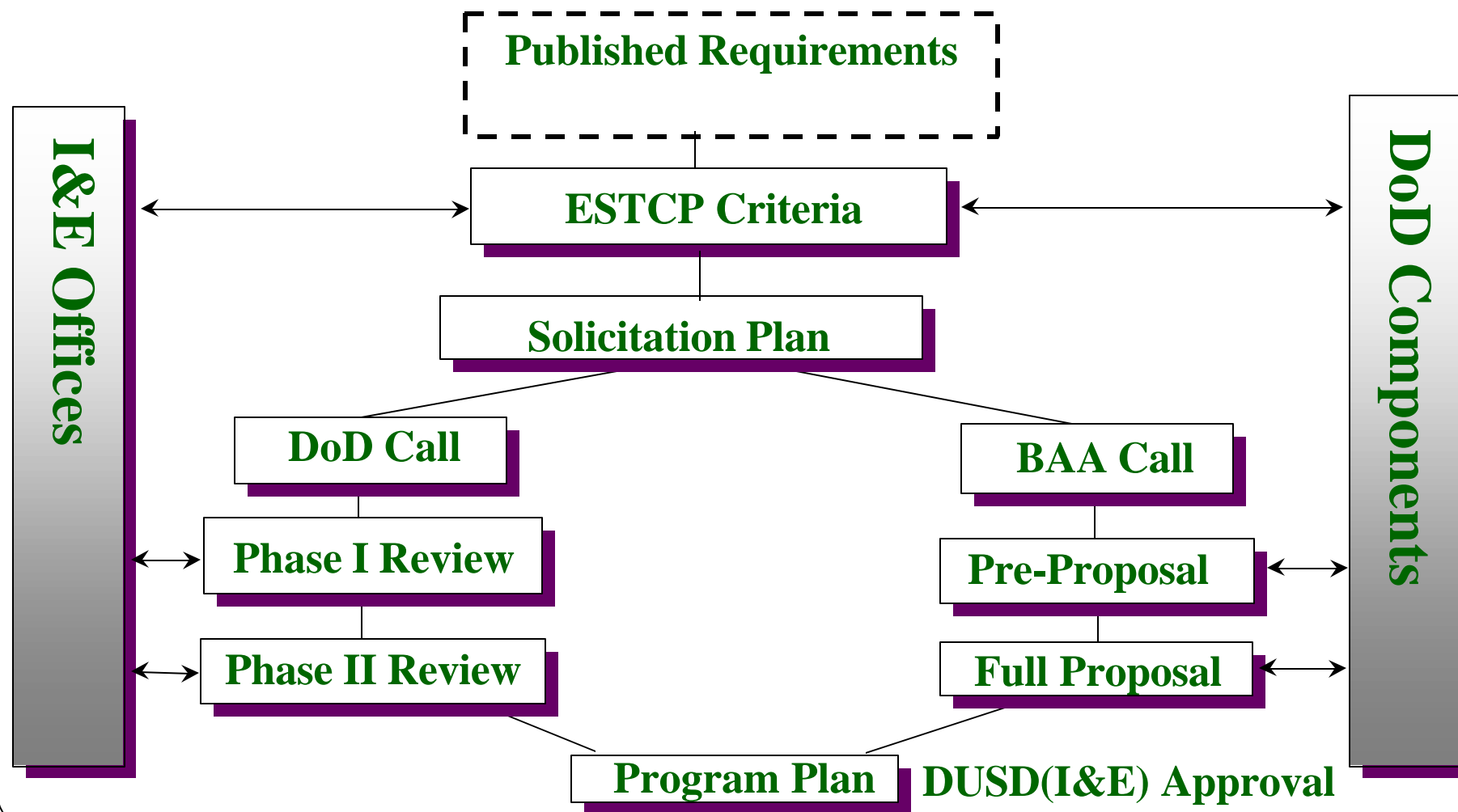


- **Partner with stakeholders and test at DoD facilities**
 - Developer, regulators, end-user
 - Direct transition
- **Validate operational cost and performance**
 - Independent test and evaluation
 - Satisfy regulatory and user communities
- **Identify DoD market opportunities**
 - Technology transfer across federal and private sector

Demonstration/Validation

- **Demonstration scale and scope**
 - 3 years or less
 - Limited development
 - Assess full scale cost and performance
- **Validation**
 - Technical performance
 - Operational costs and logistics
 - Regulatory and/or end user acceptance

Solicitation Process



Solicitation Timelines

SERDP

- **Annual Solicitation - November**
- **“SEED” Solicitation - November**
- **Selection in July**
- **SAB Reviews in August/September**

ESTCP

- **Annual Solicitation - January**
- **Selection in September**

SERDP

<http://www.serdp.org>

ESTCP

<http://www.estcp.org>

DENIX

Defense Environmental Network & Information eXchnage

<http://www.denix.osd.mil>

**Sponsored by
SERDP and ESTCP**



Partners in Environmental Technology

Technical Symposium and Workshop

**“Building on Past Successes
to Address Emerging Issues”**

November 27 - November 29, 2001

**Marriott Wardman Park Hotel
Washington, D.C.**